

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

Ribes rubrum L.

RED CURRANT, WHITE CURRANT

UPOV Code: RIBES_RUB

Adopted on 28/11/2012

Entry into force on 01/01/2012

I SUBJECT OF THE PROTOCOL

The protocol describes the technical procedures to be followed in order to meet the Council Regulation (EC) N°2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on general UPOV Document TG/1/3 and UPOV Guideline TG/52/6 dated 20/10/2011 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all varieties of *Ribes rubrum* L.

II SUBMISSION PLANT MATERIAL

1. The Community Plant Variety Office (CPVO) is responsible for informing the applicant of

- the closing date for the receipt of plant material;
- the minimum amount and quality of plant material required;
- the examination office to which material is to be sent.

A sub-sample of the material submitted for test will be held in the variety collection as the definitive sample of the candidate variety.

The applicant is responsible for ensuring compliance with any customs and plant health requirements.

2. Final dates for receipt of documentation and material by the Examination Office

The final dates for receipt of requests, technical questionnaires and the final date or submission period for plant material will be decided by the CPVO and each Examination Office chosen.

The Examination Office is responsible for immediately acknowledging the receipt of requests for testing, and technical questionnaires. Immediately after the closing date for the receipt of plant material the Examination Office should inform the CPVO whether acceptable plant material has been received or not. However if unsatisfactory plant material is submitted the CPVO should be informed as soon as possible.

3. Plant material requirements

Information with respect to closing dates and submission requirements of plant material for technical examination of varieties can be found on the CPVO website (www.cpvo.europa.eu) in the S2 Gazette.

Quality of plants: Should not be less than the standards laid down in Council Directive 2000/29/EC and its amendments concerning quarantine organisms, and Council Directive 2008/90/EC and Commission Directive 93/48/EEC and their amendments concerning organisms impairing quality, at the date of adoption of this protocol; please refer to "Eur-Lex" for the full text and in case of any subsequent amendments to the three aforesaid Directives.

Chemical treatment: The plant material must not have undergone any treatment unless the CPVO and the examination office allow or request such treatment. If it has been treated, full details of the treatment must be given.

Labelling of individual plants in sample:

- Species
- File number of the application allocated by the CPVO
- Breeder's reference
- Examination office's reference (if known)
- Name of applicant
- The phrase "On request of the CPVO"

III CONDUCT OF TESTS

1. Variety collection

A variety collection will be maintained for the purpose of establishing distinctness of the candidate varieties in test. A variety collection may contain both living material and descriptive information. A variety will be included in a variety collection only if plant material is available to make a technical examination.

Pursuant to Article 7 of Council Regulation (EC) No. 2100/94, the basis for a collection should be the following:

- varieties listed or protected at the EU level or at least in one of the EEA Member States;
- varieties protected in other UPOV Member States;
- any other variety in common knowledge.

The composition of the variety collection in each Examination Office depends on the environmental conditions in which the Examination Office is located.

Variety collections will be held under conditions which ensure the long term maintenance of each accession. It is the responsibility of Examination Offices to replace reference material which has deteriorated or become depleted. Replacement material can only be introduced if appropriate tests confirm conformity with the existing reference material. If any difficulties arise for the replacement of reference material, Examination Offices must inform the CPVO. If authentic plant material of a variety cannot be supplied to an Examination Office the variety will be removed from the variety collection.

2. Material to be examined

Candidate varieties will be directly compared with other candidates for Community plant variety rights tested at the same Examination Office, and with appropriate varieties in the variety collection. When necessary an Examination Office may also include other candidates and varieties. Examination Offices should therefore make efforts to co-ordinate the work with other Offices involved in DUS testing of red and white currant. There should be at least an exchange of technical questionnaires for each candidate variety, and during the test period, Examination Offices should notify each other and the CPVO of candidate varieties which are likely to present problems in establishing distinctness. In order to solve particular problems Examination Offices may exchange plant material.

3. Characteristics to be used

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in the Annex 1. All the characteristics shall be used, providing that observation of a characteristic is not rendered impossible by the expression of any other characteristic, or the expression of a characteristic is prevented by the environmental conditions under which the test is conducted. In the latter case, the CPVO should be informed. In addition the existence of some other regulation e.g. plant health, may make the observation of the characteristic impossible.

The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation (EC) No. 874/2009, to insert additional characteristics and their expression in respect of a variety.

4. Grouping of varieties

The varieties and candidates to be compared will be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states of expression are fairly evenly distributed throughout the collection. In the case of continuous grouping characteristics overlapping states of expression between adjacent groups is required to reduce the risks of incorrect allocation of candidates to groups. The characters used for grouping could be the following:

- a) Fruit truss : length including stalk (characteristic 22)
- b) Berry: size (characteristic 25)
- c) Berry: colour (characteristic 27)
- d) Time of beginning of fruit ripening (characteristic 30)

5. Trial designs and growing conditions

The minimum duration of tests will normally include at least two satisfactory crops of fruit. Tests will be carried out under conditions ensuring normal growth. The size of the plots will be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period.

The test design is as follows

Each test should include 5 plants.

Unless otherwise indicated, all observations should be made on 5 plants or parts taken from each of 5 plants.

6. Special tests

In accordance with Article 83(3) of Council Regulation (EC) No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the test that a candidate has a characteristic which would be helpful in establishing distinctness. If such a claim is made and is supported by reliable technical data, a special test may be undertaken providing that a technically acceptable test procedure can be devised.

Special tests will be undertaken, with the agreement of the President of CPVO, where distinctness is unlikely to be shown using the characteristics listed in the protocol.

7. Standards for decisions

a) **Distinctness**

A candidate variety will be considered to be distinct if it meets the requirements of Article 7 of Council Regulation (EC) No. 2100/94.

b) **Uniformity**

For the assessment of uniformity a population standard of 1% and an acceptance probability of 95% should be applied.

For a sample size of 5 plants, no off-types are allowed.

c) **Stability**

A candidate will be considered to be sufficiently stable when there is no evidence to indicate that it lacks uniformity.

IV REPORTING OF RESULTS

After each recording season the results will be summarised and reported to the CPVO in the form of a UPOV model interim report in which any problems will be indicated under the headings distinctness, uniformity and stability. Candidates may meet the DUS standards after two fruiting periods but in some cases three fruiting periods may be required. When tests are completed the results will be sent by the Examination Office to the CPVO in the form of a UPOV model final report.

If it is considered that the candidate complies with the DUS standards, the final report will be accompanied by a variety description in the format recommended by UPOV. If not, the reasons for failure and a summary of the test results will be included with the final report.

The description of the variety should be supplemented by a shadowgraph of 4 typical leaves.

The CPVO must receive interim reports and final reports by the date agreed between the CPVO and the examination office.

Interim reports and final examination reports shall be signed by the responsible member of the staff of the Examination Office and shall expressly acknowledge the exclusive rights of disposal of CPVO.

The interim report as well as the final report shall be sent by the Examination Office to the CPVO.

V LIAISON WITH THE APPLICANT

If problems arise during the course of the test the CPVO should be informed immediately so that the information can be passed on to the applicant. Subject to prior agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

VI ENTRY INTO FORCE

The present protocol enters into force on **01/01/2012**. Any ongoing DUS examination of candidate varieties started before the aforesaid date will not be affected by the approval of the revised Technical Protocol. Technical examinations of candidate varieties are carried out according to the TP in force when the DUS test starts. The starting date of a DUS examination is considered to be the due date for submitting of plant material for the first test period.

In cases where the Office requests to take-over a DUS report for which the technical examination has either been finalized or which is in the process to be carried out at the moment of this request, such report can only be accepted if the technical examination has been carried out according to the CPVO TP which was in force at the moment when the technical examination started.

ANNEXES TO FOLLOW

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Legend:

(*)	UPOV asterisked characteristic
(+)	See Explanation on the Table of Characteristics
(a)-(e)	See Explanations on the Table of Characteristics
G	Grouping characteristics

Types of expression of characteristics:

QL	Qualitative characteristic
QN	Quantitative characteristic
PQ	Pseudo-qualitative characteristic

Type of observation of characteristics:

MG	Single measurement of a group of plants or parts of plants
MS	Measurement of a number of individual plants or parts of plants
VG	Visual assessment by a single observation of a group of plants or parts of plants
VS	Visual assessment by observation of individual plants or parts of plants

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ANNEX I

TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
1.	1.	VG	Plant: vigour		
	(*)	(a)	weak	Pink Dutch	3
	(+)	(+)	medium	Maarse's Prominent, Mulka, Rovada	5
QN	QN		strong	Jonkheer van Tets, Rote Vierländer, Ruby Castle	7
2.	2.	VG	Plant: density of shoots		
	(*)	(a)	sparse	Heros, Krenever, Losan	3
	QN	QN	medium	Random, Rote Vierländer, Rovada	5
			dense	Mulka, Red Dutch, Rote Versailles, Tattran	7
3.	3.	VG	Plant: habit		
	(*)	(a)	upright	Bad Gasteiner, Bar le Duc	1
	(+)	(+)	semi-upright	Random	2
QN	QN		spreading	Heros, Jonkheer van Tets, Losan	3
4.	4.	VG	Plant: number of basal shoots		
	(*)	(a)	few	Heros, Krenever, Rolan	3
	QN	QN	medium	Red Dutch, Rote Vierländer	5
			many	Detvan, Mulka	7
5.	5.	VG	Bud: position in relation to shoot		
	(*)	(b)	adpressed or slightly held out	Johnkheer van Tets, Natalia, Witan	1
	(+)	(+)	moderately held out	Heinemanns Rote Spätlese	2
QN	QN		strongly held out	Traubenwunder, Tydeman's Seedling	3
6.	6.	VG	Bud: length		
	(*)	(b)	short	Kimere, London Market, Rovada	3
	QN	QN	medium		5
			long	Augustus	7

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note			
7.	7.	VG	Bud: shape of apex					
			(*)	(b)	narrow acute	Blanka	1	
			(+)	(+)	broad acute	Detvan	2	
QN	QN		rounded		3			
8.	8.	VG	Bud: anthocyanin coloration					
			QN	QN	(b)	absent or very weak		1
						weak		3
						medium		5
			strong		7			
9.	9.	VG	Bud: bloom					
			(*)	(b)	weak	Cascade, Frauendorfi	1	
			(+)	(+)	medium	Jonkheer van Tets, Palants Sämling, Red Dutch	3	
QN	QN		strong	Augustus, Detvan, Houghton Castle, Rovada	5			
10.	10.	VG	Young shoot: anthocyanin coloration					
			(*)		absent or very weak	Maarse's Prominent	1	
			(+)	(+)	weak	Augustus, Houghton Castle, Roodneus	2	
			QN	QN		medium	Präkanda	3
						strong	Hochrote Frühe	4
			very strong		5			
11.	11.	VG	Young leaf: intensity of green colour					
			(*)		light	Maarse's Prominent, Roodneus	3	
			QN	QN		medium	Cascade	5
			dark	Red Lake	7			
12.	12.	VG/MS	Leaf blade: length					
			(*)	(c)	short	Red Lake	3	
			QN	QN		medium		5
			long	Rosetta, Traubenwunder	7			

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
13.	13.	VG/MS (* (c)	Leaf blade: width		
			narrow	Rosetta	3
			medium		5
QN	QN		broad	Frauendorfi	7
14.	14.	VG/MS (* (c)	Leaf blade: ratio length/width		
			moderately compressed	Cascade, Witte van Huisman	3
			medium	Augustus, Detvan	5
QN	QN		moderately elongated	Trent	7
15.	15.	VG (* (c)	Leaf: intensity of green colour of upper side		
			light	Imperial Blanche	1
			medium	Jonkheer van Tets, Laxton's No.1	3
QN	QN		dark	Augustus, Red Dutch	5
16.	16.	VG (* (c)	Petiole: thickness		
			thin	Hosszufurtu, Kordes Rotes Wunder	1
			medium	Witte Hollander	3
QN	QN		thick	Detvan, Imperial Blanche	5
17.	17.	VG (* (d)	Inflorescence: number of flowers		
			few	Primus, Traubenwunder, Victoria	3
			medium	Heros, Jonkheer van Tets	5
QN	QN		many	Detvan, Heinemanns Rote Spätlese, Rovada	7
18.	18.	VG (* (d)	Inflorescence: anthocyanin coloration of rachis		
			absent or very weak	Devínska Vel'koplodná, Heros	1
			weak	Frauendorfi, Laxton's No.1	3
			medium	Rondom	5
			strong	Argos Piros, Heinemanns Rote	7
QN	QN		very strong	Redpol	9

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note		
19.	19.	VG	Flower: size				
			(*)	(d)	small	Maarse's Prominent	3
			QN	QN	medium	Cascade, Rotet, Rovada	5
			large	Loppersummer, Red Lake	7		
20.	20.	VG	Flower: curvature of calyx				
			(*)	(d)	very weak	Devínska Veľ'koplodná, Heros	1
			(+)	(+)	weak	Houghton Castle, Jonkheer van Tets	2
			QN	QN	moderate	Frauendorfi, Mulka, Rote Vierländer	3
					strong	Red Dutch	4
			very strong		5		
21.	21.	VG	Flower: anthocyanin coloration of calyx				
			(*)	(d)	absent or very weak	Chenonceau, Devínska Veľ'koplodná, Heros	1
			QN	QN	weak	Jonkheer van Tets , Minnesota 69, Rote Vierländer	3
					medium	Detvan, Mulka, Roodneus	5
					strong	Bad Gasteiner, Red Dutch	7
			very strong		9		
22.	22.	VG/MS	Fruit truss: length excluding stalk				
			(*)	(e)	very short		1
			(+)	(+)	short	Imperial Blanche	3
			QN	QN	medium	Rondom	5
					long	Blanka, Jonkheer van Tets	7
G			very long	Detvan, Tatran	9		
23.	23.	VG/MS	Fruit truss: length of stalk				
			(*)	(e)	short	Rondom	3
			QN	QN	medium	Versailles Blanche	5
					long	Augustus, Redpoll, Roodneus	7
			very long	Tatran	9		

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
24.	24.	VG (*) (e)	Fruit truss: density of berries		
			sparse	Devínska Vel'koplodná	3
			medium	Rogwood, Traubenwunder	5
QN	QN		dense	Kimere, Kordes Rotes Wunder, Rosetta	7
25.	25.	VG (*) (e)	Berry: size		
			very small	Devínska Vel'koplodná, Mulka	1
			small	Houghton Castle, Laxton's Perfection	3
			medium	Augustus, Laxton's No.1, Rote Vierländer	5
			large	Heros, Jonkheer van Tets	7
G			very large	Cascade	9
26.	26.	VG (*) (e)	Berry: shape		
			oblate	Laxton's No.1, Zitavia	1
			circular	Mulka	2
(+)	(+)		pyriform	Rote Vierländer, Witte Hollander	3
27.	27.	VG (*) (e)	Berry: colour		
			white	Bar le Duc, Blanka, Versailles Blanche, Witte Hollander, Witte Parel, Zitavia	1
			pink	Hossfurtu, Rosa Hollander, Rosa Sport	2
			light red	Präkanda	3
			medium red	Jonkheer van Tets, Rondon, Rotet, Victoria	4
G			dark red	Jobes 88, Laxton's Perfection, Mulka, Roodneus, Stanza	5
28.	28.	MG (*) (+)	Time of bud burst		
			early	Detvan, Rondon	3
			medium	Rote Vierländer	5
QN	QN		late	Frauendorfi, Kaukasische, Laxton's Perfection	7

CPVO N°	UPOV N°	Stage, method	Characteristics	Examples	Note
29.	29.	MG	Time of beginning of flowering		
	(*)		very early	Hosszufurtu, Turnier	1
(+)	(+)		early	Heros, Jonkheer van Tets	3
QN	QN		medium	Losan, Rote Vierländer	5
			late	Red Dutch, Rondon, Victoria	7
			very late	Mulka	9
30.	30.	MG	Time of beginning of fruit ripening		
	(*)		very early	Jonkheer van Tets	1
(+)	(+)		early	Heros, Red Lake	3
QN	QN		medium	Detvan, Mulka	5
			late	Blanka, Krenever, Red Dutch	7
G			very late	Heinemanns Rote Spätlese, Tatra	9

EXPLANATIONS AND METHODS

Explanations covering several characteristics

Characteristics containing the following key in the third column of the Table of Characteristics should be examined as indicated below:

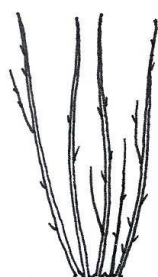
- a) Observations should be made on unpruned bushes in the dormant season.
- b) Observations on the bud should be made when the buds begin to swell.
- c) Observations should be made on fully developed leaves at fruit maturity on the upper third of typical one-year-old shoots.
- d) Observations should be made at the time of full flowering.
- e) Observations should be made at the time of beginning of fruit ripening (see Ad. 30).

Explanations for individual characteristics

Ad. 1: Plant: vigour

The vigour of the plant should be considered as the overall abundance of vegetative growth.

Ad. 3: Plant: habit



1
upright



2
semi-upright



3
spreading

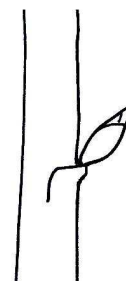
Ad. 5: Bud: position in relation to shoot



1
adpressed or slightly held out

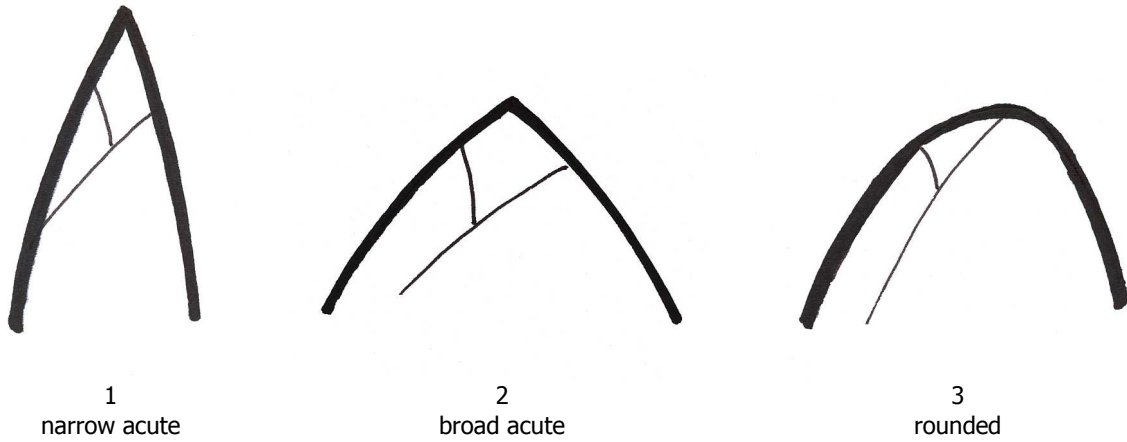


2
moderately held out



3
strongly held out

Ad. 7: Bud: shape of apex



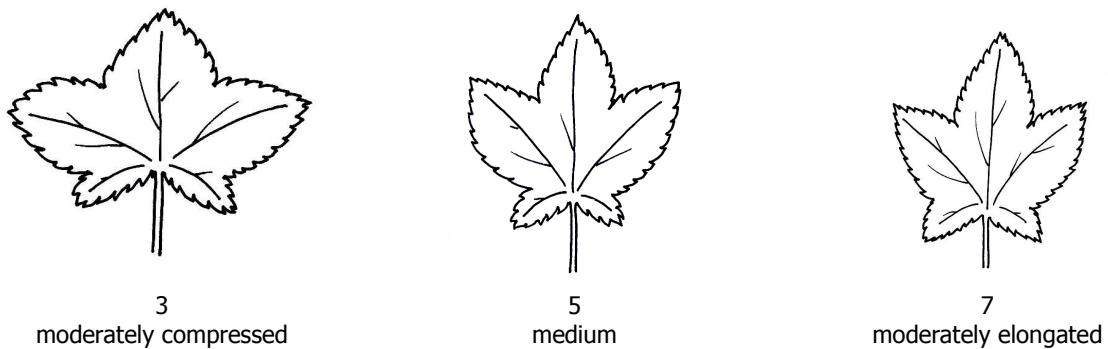
Ad. 9: Bud: bloom

Bloom is the waxy layer on the scales that can be removed by rubbing.

Ad. 10: Young shoot: anthocyanin coloration

The anthocyanin coloration should be observed on the leaf and shoot at the stage of rapid growth.

Ad. 14: Leaf blade: ratio length/width



Ad. 16: Petiole: thickness

The thickness should be observed in the middle part of the petiole.

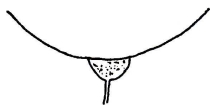
Ad. 17: Inflorescence: number of flowers

The number of flowers should be observed as the total number of flowers, irrespective of whether they are open, or not.

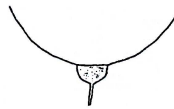
Ad. 20: Flower: curvature of calyx



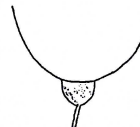
1
very weak



2
weak



3
moderate

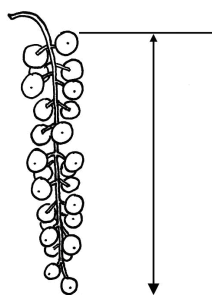


4
strong



5
very strong

Ad. 22: Fruit truss: length excluding stalk



Ad. 26: Berry: shape

	← broadest part →
	(below middle) at middle

broad (compressed) ← width (ratio length/width) → narrow (elongated)	<p>3 pyriform</p>	<p>2 circular</p>
	<p>1 oblate</p>	

Ad. 28: Time of bud burst

The time of bud burst is when 10% of the buds are burst.

Ad. 29: Time of beginning of flowering

The time of beginning of flowering is when 10% of the flowers are open.

Ad. 30: Time of beginning of fruit ripening

The time of beginning of fruit ripening is when the fruit starts to be easily removed from the plant.

Synonyms of the example varieties

Example varieties	Synonym(s)
Imperial Blanche	Imperial White, Weiße Kaiserliche
Red Dutch	Roder Hollande, Rote Holländische
Rote Vierländer	Earliest of Fourlands, Erstling aus Vierlanden
Stanza	St. Anna-Beere
Versailles Blanche	Weiße Versailler
Witte Hollander	Weiße Holländische, White Dutch
Witte Parel	White Pearl

LITERATURE

Hoffman, M.H.A., 2005: List of names of woody plants. Praktijkonderzoek Plant & Omgeving BV. Boskoop, NL, 871 pp.

Keipert, K., 1981: Beerenobst. Ulmer Verlag. Stuttgart, DE, 349 pp.

ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference:
CPVO-TQ/052/2